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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,036	09/15/2006	Kenji Suzuki	1592-0165PUS1	5742

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EXAMINER
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SAYADIAN, HRAYR

ART UNIT	PAPER NUMBER
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2815

NOTIFICATION DATE	DELIVERY MODE
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10/07/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/593,036	<b>Applicant(s)</b> SUZUKI ET AL.	
	<b>Examiner</b> HRAYR A. SAYADIAN	<b>Art Unit</b> 2815	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/15/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED OFFICE ACTION**

### **35 U.S.C. § 112 Rejections of the Claims**

1. The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-5 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter Applicant regards as the invention.

Specifically, in independent claim 1, the claimed substrate is defined not by what it is but rather by what response it might yield when observed under ambiguous circumstances. Neither the proposed observation, nor the effect/result of such observation particularly point out and distinctly claim the subject matter applicant regards as the invention, so the public might be on notice and avoid infringing should any of the claims be allowed.

For example, it is unclear what is the wavelength/frequency range of the characterizing light. As recited, the light spectrum of the claimed characterization has a scope not excluding the whole electromagnetic spectrum.

Nor is the scope of "effectively used area" defined. This recitation includes characterizing over an area as small as several square inches, when the substrate is to be used with VLSI circuits, and an area as small as 1 square micron, when the substrate is to be used with single submicron device.

This lack of clarity is especially detrimental because phrases are what presumably distinguish over the prior art. See *Halliburton Energy Services, Inc. v. M-I LLC*, 85 USPQ2d 1654 (Fed. Cir., 2008) (noting the additional problems lack of clarity causes when using functional language to distinguish over the prior art, and holding a claim invalid when determining the scope of its functional language depended on experimentation by one of ordinary skill in the art to determine whether and when the functional was met.).

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Correction is required.

35 U.S.C. § 112, first paragraph, requires the originally filed specification to contain a written description of the claimed invention. And 35 U.S.C. § 132(a) prohibits any "amendment [from] introduc[ing] new matter into the disclosure of the invention." Accordingly, new matter should not be introduced by either addition or deletion.

### **35 U.S.C. § 102 Rejections of the Claims**

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 providing the legal bases for the anticipation rejections in this Office Action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by U.S. Pat. No. 5,647,917 to "Oida."

Oida discloses all of the limitations of the claims. See, for example, the front page and FIG. 1, disclosing dislocation density in InP of less than 10 per square centimeter.

Examiner notes that the probability of a dislocation existing in an effectively used area of 1 square micron (when the average dislocation density is less than 10 in square centimeters) is about 1 in 10,000,000. The haze from an effectively used area of 1 square micron of the substrates Oida discloses will therefore not be more than 2 ppm because there will be no dislocation.

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### CONCLUSION

5. A shortened statutory period for reply to this Office Action is set to expire **THREE MONTHS** from the mailing date of this Office Action. Applicant is reminded of the extension of time policy as set forth in 37 CFR § 1.136(a).

Any inquiry concerning this communication or earlier communications from an Examiner should be directed to Examiner Hrayr A. Sayadian, at (571) 272-7779, on Monday through Friday, 7:30 am – 4:00 pm ET.

If attempts to reach Mr. Sayadian by telephone are unsuccessful, his supervisor, Supervisory Primary Examiner Kenneth Parker, can be reached at (571) 272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available only through Private PAIR. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. The Electronic Business Center (EBC) at 866-217-9197 (toll-free) may answer questions on how to access the Private PAIR system.

/Hrayr A. Sayadian/

Patent Examiner, Art Unit 2815